All communications respecting this application should give the serial number, date of filing and name of the applicant.

PAPER NO. 35

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Hoke
SN 245313

Art Unit 153
04-15-81

Jean-Yves Chenard et al

Before the Board of Appeals

APPEAL NO. 660-84

MAILED

SEP 17 1985

GROUP 150

Stanley A. Marcus
For Appellant

Examiner's Answer

RECEIVED

BOARD OF APPEALS

This is an appeal from the final rejection of claims 59 to 62 and 64 to 69. The sole other claims, 60 and 73, stand objected to as being dependent upon the rejected claims, but are otherwise allowable. A correct copy of the appealed claims, as well as the objected claims, appears on pages 2 to 7 of the Appeal Brief.

Form PTOL-84 (Rev. 5-81)

THE INVENTION

Claims in this application are directed to the thermal stabilization of a vinyl chloride resin containing, as the minimal stabilizer system, two components. These two materials are an organotin compound having certain groups attached to the remaining tin atom's valances, as specified in generic claim 59, and a carboxylic acid ester wherein the alcohol-derived portion evolves from a mercapto alcohol, such as 2-mercaptoethyl stearate, to wit see claim 68.

In addition, at page 21 of the specification, it is indicated that up to one third of the organotin stabilizer, which can be devoid of a Sn-halide radical, can be replaced by an organotin halide of which tributyl tin chloride, which contains said radical, as represented in stabilizer composition B on page 35, is exemplary. The claims' broad "comprising" terminology to define the stabilizer system's constituency does not preclude this adjuvant's presence.

THE REFERENCES OF RECORD RELIED UPON

3,665,025	Wowk	05/72
3,758,341	Wowk	07/73
3,758,537	Wowk	09/73
3,928,285	Gough	12/75
4,360,619	Kúgele et al (filed 2-26-81)	11/82

French Patent 2,434 835 published 3-28-80

NOTE: This is the patent which matured from applicant's earliest filed foreign application, SN 78 24863, filed August 28, 1978 upon which application, priority under 35 USC 119 had been requested in the present application as well as parent application, SN 070,503 filed August 28, 1979, now abandoned.

Japanese Patent 55-160044, published 12-12-80

Japanese Patent 56-2336, published 12-1-81

THE REJECTION

I. Claims 59 to 62 and 64 to 69 stand rejected as fully met by each of Japanese Patent Nos. 56-2336 and 55-160044 under 35 USC 102(a).

II. Claims 59 to 62 and 64 to 69 stand rejected as fully met by Kugele under 35 USC 102(a).

BACKGROUND OF PARENT APPLICATION'S PROSECUTION

This application, which was filed April 15, 1981, is a continuation-in-part of applicants' US application SN 070,503, filed August 28, 1979, now abandoned. Both applications claim priority under 35 USC 119 on the basis of French Patent application Nos. 78/24863 and 79/12005, filed August 29, 1978 and April 11, 1979, respectively. French Patent 2,434,835, issued March 28, 1980, evolved from the former French application. Applicants have not filed copies of the French priority documents but in view of the referral to only organotin compounds in said French patent on which U.S. application SN 070,503 was based in-part, it must be presumed that the latter filed French application SN

79/12005 presented the teaching found on page 5 of the parent application, US application SN 070,503, that antimony compounds are interchangeable with the tin compound and that conventional metal soap, epoxides, phosphites and antioxidants are possible adjuvants.

The parent application related on page 6 of the specification that known mono and di organotin tin compounds independent of the presence or absence of sulfur in the molecule, were enhanced in their effectiveness by the mercapto ester's inclusion. Di-n-octyltin bis(isooctyl mercapto acetate), a butyl stannoic acid/butyl thiostannoic acid copolymer, butyl stannoic acid and dibutyl tin bis(isooctyl mercapto acetate) were cited as representative in examples 1 to 11 of the specification. In response to a rejection of the claims in the parent application as being unsupported in their broad referral to all known organotin stabilizer compounds as being amenable to the effect of the mercapto ester and in an attempt to distinguish over Gough's stabilizer system comprised of the same mercapto esters and having as the tin compound, an organotin borate, Appellant filed the present application wherein the mercapto esters' scope (pages 8 to 13 of the specification) and the tin compounds' scope (pages 14 to 16) were greatly amplified to include "poly" mercapto esters and mono and di organotin stabilizers in addition to the five species in parent application. Also for the first time, the suggestion to

use combinations of tin stabilizers was provided - initial sentence on page 18 - as was the suggestion that an organotin halide, up to one third of the total metal stabilizer constituency, could be added in partial replacement of the essential organotin stabilizer.

REJECTIONS OVER JAPANESE PATENTS

Applicants do not specifically disclose the mono and di organotin mercapto acid ester halide of these references. Their claims' stipulation however, that the organotin stabilizer can contain a Sn-halide link as well as the Sn-S link derived from reacting an organotin compound with a mercaptan or mercapto acid/ester indicates that such broad language encompasses references' tin stabilizers which are similarly used with mercapto esters.

It is considered that applicants having now presented for the first time in their series of foreign and US applications, specific referral to such organotin mercapto acid ester halides in the instant application which was filed subsequent to the reference disclosures' publications, rejection as fully anticipated inventions under 35 USC 102(a) is justified.

The assertion that the 37 CFR 1.131 declaration filed August 13, 1984 established that applicants were in possession of a generic concept encompassing the use of all known organotin stabilizers prior to the references' publications, is contradicted by the fact

that applicant had contended during the parent applications' prosecution that their organotin component's recitation, which was then couched in the even broader terminology "a metal containing stabilizer", was distinct from Gough's organotin borate. See attached exhibit A, page 2, third paragraph. This traversal was clearly untenable and is so even in this application inasmuch as the organotin stabilizer is specifically stated as possibly containing a Sn-O link, and no prohibition that the oxygen be further linked to boron is indicated in either the claims or the disclosure.

Having expressly abandoned the parent applicant for the purpose of filing this application in order to provide support for the broad tin stabilizer terminology and also ostensibly for purposes of avoiding Gough's organotin borate, Appellants are in no position to assert that they were in possession of a generic concept in using any and all organotin compounds prior to the references' publications, independent of what other species their declarations espoused as having been earlier reduced to practice.

REJECTION OVER KUGELE ET AL

As stated above in explaining the claimed invention's scope, the disclosure at page 21 relates that the stabilizer composition can be comprised, in addition to the essential organotin stabilizer and

mercapto ester, of up to one third of its metal stabilizer constituency of an organotin halide such as butyl tin trichloride. The claims "comprising" terminology is considered to permit these materials' added inclusion thus making for a ternary stabilizer system comparable to Kugele et al's (hereinafter "Kugele"). The parent application SN 070,503 did not disclose this aspect nor has support been shown in any of the foreign priority applications. Kugele's patent application's filing date, February 26, 1981 antedates the effective filing date of the present application, April 15, 1981, for this claimed aspect.

Applicants contend that their earlier foreign applications and parent application relate that they were possession of a generic invention in the organotin-mercapto ester stabilizer concept and that therefore the presence as an added stabilizer of an organotin halide such as now set forth on page 21 in the specification of this application would have been appreciated at that time. They rely (Appeal Brief: second paragraph on page 14) on the Wowk US Patents and Larkin US Patent attached to Foure's 37 CFR 1.131 affidavit which accompanied the amendment dated December 23, 1923, paper No. 16, as evidence that organotin mercapto halides per se (Wowk) or organotin halides such as octyltin trichloride in combination with standard tin stabilizers such as butyl tin tri(isooctyl mercapto acetate) (Larkin) were known organotin stabilizers at

that time for PVC resins. Their use in lieu of the species found in the French priority applications is urged as having been appreciated as obvious equivalents for purposes of use with the mercapto ester. For this reason, applicant has consistently refused to copy claims from Kugele's patent based on this ternary component-based stabilizer system's use.

The statutes 35 USC 101, 35 USC 102 and 35 USC 135 expressly prohibits issuance of more than one patent directed to the same invention. Furthermore, 37 CFR 1.204 specifically states that the fact that one of the parties has already obtained a patent will not prevent an interference. The resolution of determination of the first inventor must be made by way of the interference procedure. The affidavits filed under 37 CFR 1.131, paper Nos. 22 to 26, cannot serve to obviate this requirement since the same invention is claimed.

Applicants' criticism of the application of Kugele based on the assertion that Kugele is ostensibly unpatentable over the Japanese patents and therefore invalid as a reference has been noted. This conclusion is erroneous because it ignores the fact that the feature of commonality between Kugele and the Japanese patent, namely the use of an organotin mercapto halide and the mercapto ester, is but an alternative aspect of Kugele's invention and it is this alternative aspect which anticipates the present ternary component stabilizer system. As noted in the proviso (last six lines of claim 1) Kugele requires that when the

essential tin stabilizer, component "A" is devoid of Sn-halide group(s) that an amount up to one third by weight of said stabilizer, of an organotin halide of the type butyl tin trichloride, defined by Component "C", must be present. Components A I to IV, B VI or VIII and C in Kugele's system correspond respectively to appellants essential organotin stabilizer, mercapto ester and organotin halide.

SUMMARY

In summary, the appealed claims are unpatentable under 35 USC 102(a) over the Japanese patents disclosures in their broad encompassing of an organotin mercapto halide as the essential organotin stabilizer. They are also unpatentable over Kugele under the same statutory provision, based on Appellants disclosure on page 21, that the inclusion of an organotin halide is intended to be considered an optional component of the stabilizer system, such concentration being fully commensurate in scope with Kugele's stipulated qualification of its presence in an amount which is up to one third by weight of the total metal stabilizers which are present.

References which appellant's counsel cited during the earlier stage of prosecution and which are not common to those previously made of record by the examiner on the official lists of references cited, PTO form 892, have been listed and thus made officially of record in the file on the accompanying PTO form 892.

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PATENT EXAMINER
GROUP 150 - ART UNIT 153

ATTACHMENT TO PAPER NO. 35

SN 254,313
F-2614

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS

In re application of
Jean Y. Chenard et al
Serial No. 070,503
Filed: August 28, 1979
For: STABILISATION OF HALOVINYL RESINS

New York, New York
Group Art Unit 143
Examiner: V.Hoke
March 10, 1981

Hon. Commissioner of Patents and Trademakds
Washington, D. C., 20231

486-14

APPEAL BRIEF

Sir:

In view of the Patent Office's extension of time for filing an Appeal Brief of only five (5) days in response to applicants' Petition to extend the brief date which indicated that a decision to re-file the application incorporating further experimental results had been made, this Appeal Brief is submitted.

The Appealed Claims

A copy of the appealed claims are set forth in an appendix to this Brief.

The Rejection

Claims 14-18, 21-24 and 26-28 were rejected under 35 USC 102 and all appealed claims were rejected under 35 USC 103 over Gough et al, U.S. Patent 3,928,285.

EXHIBIT A

Argument

The Gough reference relied on by the Examiner relates to the same subject matter as the present invention, i.e., the stabilization of a halogen containing resin and discloses that it is known in the art to use organic thiols, hindered phenols, tin carboxylates, organotin carboxylates and organotin mercaptides as stabilizers for such resins. The patent further indicates that it was previously known that the combination of an organic thioanhydride and a monohydroxy carbonyl tin compound could be used. The Gough patent itself teaches a synergistic stabilizer composition which contains an organotin borate and an organic thiol.

In direct contrast to the cited patent, the claimed invention relates to the combination of known conventional stabilizing agents with a carboxylic acid ester containing a mercaptan function in the alcohol residue thereof. The applicants' invention does not relate to the combination of a thiol with a borate which is the essence of the Gough patent.

The Examiner has taken the position that applicants' recitation of a metal containing stabilizer is insufficient to distinguish from the reference's organotin borates since the former class is generic to the reference's materials. Such reasoning is clearly not applicable to Claims 17 and 26-28. Claim 26 (and thereby Claims 27-28) recites specifically the conventional stabilizers by means of a Markush group and no organotin borate is recited. Claim 17 recites that the stabilizer is selected from a particular Markush group which also excludes the reference's organotin borate. The remaining claims refer to a "metal containing stabilizer" which also excludes the organotin borates of Gough.

Gough does teach esters falling within applicants' formula in its broadest aspects under certain limited conditions where j is 0 and h is 1 in formula g. However, Gough offers the artisan a choice of four general formulas in which some of the moieties are not defined with any greater specificity than "aliphatic" or "aromatic". The huge number of thiols disclosed

21. The improved method of claim 19 in which RCOO- is derived from an aliphatic or aromatic diacid.

22. The improved method of claim 21 wherein said diacid is selected from the group consisting of succinic, adipic or phthalic acid.

23. The improved method of claim 18 in which R'SH is derived from a 2 to 6 carbon atom mercapto alkanol.

24. The improved method of claim 23 in which said mercapto alkanol is selected from the group consisting of 1-mercapto-ethanol-2, 1-mercapto-propanol-3, 1-mercapto-2-hydroxypropanol-3 and 1-mercapto-butanol-4.

25. The improved method of claim 14 wherein said ester is mercaptoethyl stearate and said metal containing stabilizer is selected from the group consisting of calcium stearate, organic tin stabilizer, and antimony tri-mercaptide stabilizer.

26. A method of improving the stabilization to heat and the viscosity characteristics of polyvinylchloride comprising incorporating therein (a) at least one conventional stabilizer selected from the group consisting of di-n.-octyltin-bis(isooctyl-mercapto-acetate), butyl stannic acid, butyl thiostannic acid, copolymer of butyl stannic acid and butyl thiostannic acid, di-n.butyltin-bis(isodecyl-mercapt acetate), antimony-tris(isooctylthioacetate), zinc stearate and calcium stearate, and (b) a mercapto alkyl ester of the formula RCOO-R'SH in which RCOO- is the residue of a 14, 16 or 18 carbon atom fatty acid and R' is ethyl or glyceryl.

27. The method of claim 26 wherein the amount of said (a) stabilizer is 0.05-1% by weight of said polyvinylchloride and the amount of said mercaptoalkyl ester (b) is 0.5-2% by weight of said polyvinylchloride.

28. A plastic mass of polyvinylchloride stabilized by the method of claims 14 or 26.

by the reference would not lead those skilled in the art to applicant's compounds or suggest to those skilled in the art that applicant's compounds could be used with conventional stabilizers to improve the activity thereof. Also, Gough teaches a synergistic combination of an organotin borate and an organic thiol. There is no suggestion that any organic thiol described therein would provide advantages when used in conjunction with a material other than an organoborate.

Applicants' sulfur containing materials are not used in conjunction with a stabilizer containing the metal boron. Applicants' esters can be added to non-tin stabilizers and obtain a significant stabilization, a wholly unexpected feature of the invention. See Examples 12-21. A further surprising and unexpected result lies in the improvement of the viscosity during working due to the addition of the mercaptoalkyl esters.

Clearly, the claims are not anticipated or rendered obvious by the Gough patent.

Conclusion

It has been shown above that the Examiner's final rejection is untenable and reversable thereof is respectfully solicited.

An oral hearing is respectfully requested.

Respectfully submitted,

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231, on

March 12, 1981

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Name of Attorney or Agent of Record Registration Number

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CLAIMS ON APPEAL

14. In a method of stabilizing a halogen containing resin to heat or light by the incorporation therein of a metal containing stabilizer, the improvement which comprises additionally incorporating therein an organic carboxylic acid ester containing a mercaptan moiety connected to a carbon atom of the alcohol moiety of said ester.

15. The improved method of claim 14 in which the amount of ester is from 0.1-5% by weight of said resin.

16. The improved method of claim 15 wherein the amount of said ester is 0.5-2% by weight of said resin.

17. The improved method of claim 15 in which the methyl of said metal containing stabilizer is selected from the group consisting of tin, antimony, zinc, magnesium, alkaline earth metals and alkali metals.

18. The improved method of claim 14 wherein said ester is of the formula RCOO-R'SH wherein R' is a hydroxyl substituted or unsubstituted 1 to 18 carbon atom alkylene group and R is a substituted or unsubstituted alkyl, alkenyl, aryl or aralkyl group of at least two carbon atoms in which said substituent is -COOR", where R" is H or -R'SH.

19. The improved method of claim 18 in which R contains 8 to 18 carbon atoms.

20. The improved method of claim 19 in which RCOO- is a fatty acid residue of caprylic, perlargonic, capric, undecanoic, lauric, myristic, palmitic or stearic acid.